

Apply a Non-Custom ESXI Image Patch on an Hyperflex Cluster

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Introduction

This document describes the process to patch an Hyperflex ESXI node with a non-custom HX Image via Command Line Interface (CLI) or via HX Connect.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Hyperflex
- ESXI

Components Used

The information in this document is based on these software and hardware versions:

- HyperFlex Connect 5.0.2d
- Hyperflex Standard Cluster
- vCenter 8.0
- VMware ESXI, 7.0.3 build-23794027
- VMware ESXI, 7.0.3 build-24585291 (target patch)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

Cisco does not always provide a separate HyperFlex bundle for every new VMware ESXi patch release. With critical ESXi updates it is possible to apply them manually with any of the methods presented on this article. However, HyperFlex does not recommend upgrading ESXi using VMware Update Manager (VUM) or VMware Lifecycle Manager (vLCM), as it can cause issues with certain HyperFlex vSphere Installation Bundles (VIBs).

Non-custom patches can only be applied for the same ESXi versions. If you are using ESXi 7.0 u3 you can only apply 7.0u3+ patches and you cannot upgrade from 7.0u3 to 8.0u2 or 8.0u3, nor upgrade from 8.0u2x to 8.0u3x with non-custom images.

Before applying any patch, make sure your current HyperFlex Data Platform (HXDP) version is compatible with the ESXi version you plan to install. The compatibility chart is as follows:

Version	VMware ESXi Version HX Servers
6.0(1x)	7.0 U3, 8.0 U2
5.5(2a)	7.0 U3, 8.0 U2, 8.0 U3
5.5(1a)	7.0 U3
5.0(2x)	7.0 U3

If your HXDP version is older, please upgrade HXDP first, then upgrade ESXi.

Configure

Download ESXi zip file from [Broadcom website](#)

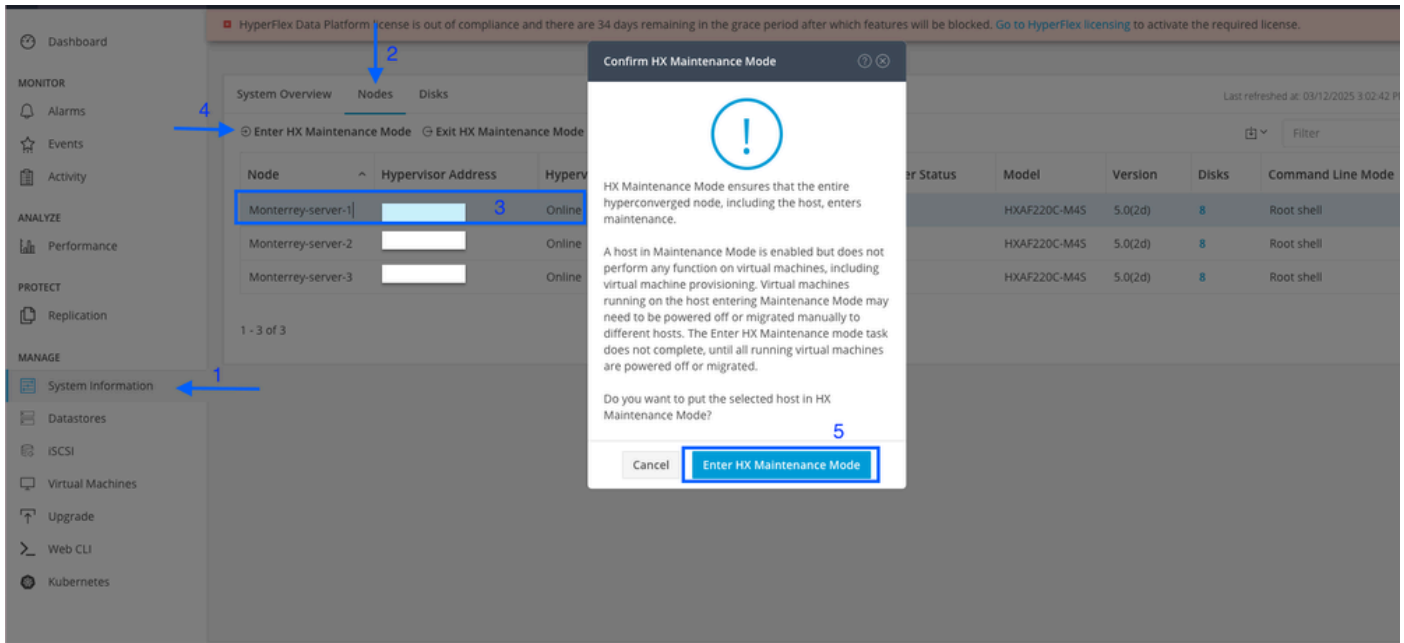
Make sure cluster is online and healthy before starting with the activity.

Verify initial versions for Hyperflex, nenic and nfnic vib on ESXi nodes of the cluster.

```
esxcli software vib list | egrep -i 'scvmclient|STFSNasPlugin|stHypervisorSvc|nenic|nfnic'
```

Upgrade via CLI

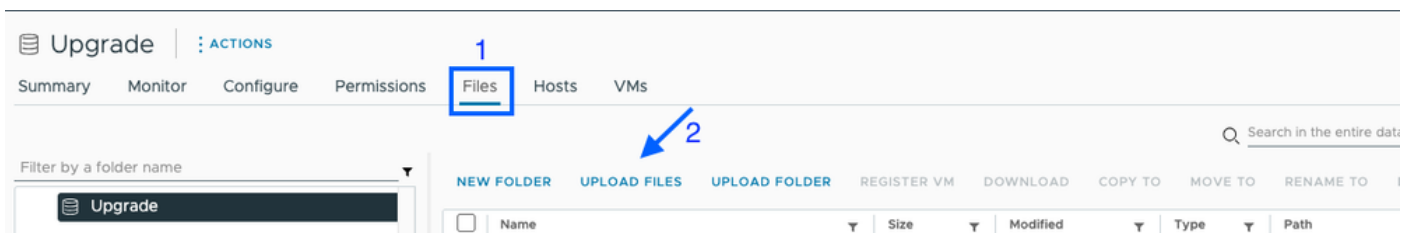
Step 1. From HX Connect navigate to **System Information > Nodes**, select one of the hosts and click **Enter HX Maintenance Mode**.



After the host enters maintenance mode, move on to the next steps.

Step 2. Transfer the zip file to the host.

You can upload it via vCenter to a mounted datastore. Navigate to the desired datastore and select **Files** then, select **UPLOAD FILES** and upload the zip file. On the image below, a datastore named **Upgrade** is used.



You can also remote secure copy the ESXI upgrade bundle to an appropriate folder with sufficient space with SCP.

```
scp local_filename user@ESXIServer:/path/where/file/should/go
```

Step 3. SSH to the ESXI host in maintenance mode and navigate to the datastore folder where the ESXI upgrade bundle is copied. In this scenario, the file is available on **Upgrade** datastore.

```
[root@Monterrey-server-1:~]cd /vmfs/volumes/Upgrade
```

You can verify current version with command **vmware -v**

```
[root@Monterrey-server-1:~] vmware -v
```

VMware ESXi 7.0.3 build-23794027

Run this command in order to view the package profile details: **esxcli software sources profile list -d /complete/path/VMware-ESXi...zip**

```
[root@Monterrey-server-1:/vmfs/volumes/2f27e295-70f773c4] esxcli software sources profile list -d /vmfs/volumes/2f27e295-70f773c4/complete/path/VMware-ESXi...zip
Name                               Vendor           Acceptance Level  Creation Time      Modification Time
-----
ESXi-7.0U3s-24585291-standard      VMware, Inc.     PartnerSupported  2025-03-04T00:00:00 2025-03-04T00:00:00
ESXi-7.0U3s-24585291-no-tools      VMware, Inc.     PartnerSupported  2025-03-04T00:00:00 2025-02-21T03:24:14
```

Step 4. Run this command to install the patch: **esxcli software profile update -d /complete/path/VMware-ESXi...zip -p PackageProfileName** and wait until it shows successful result.

```
root@Monterrey-server-1:/vmfs/volumes/2f27e295-70f773c4] esxcli software profile update -d /vmfs/volumes/2f27e295-70f773c4/complete/path/VMware-ESXi...zip -p PackageProfileName
Update Result
Message: The update completed successfully, but the system needs to be rebooted for the changes to be applied.
Reboot Required: true
VIBs Installed: VMware_bootbank_bmcal_7.0.3-0.135.24585291, VMware_bootbank_cpu-microcode_7.0.3-0.135.24585291
VIBs Removed: VMware_bootbank_bmcal_7.0.3-0.125.23794027, VMware_bootbank_cpu-microcode_7.0.3-0.125.23794027
VIBs Skipped: VMW_bootbank_atlantic_1.0.3.0-8vmw.703.0.20.19193900, VMW_bootbank_bnxtnet_216.0.50.0-8vmw.703.0.20.19193900
```

Step 5. Once the upgrade completes, restart the ESXi host.

Step 6. SSH into the host and verify the version with the command: **vmware -v**

```
[root@Monterrey-server-1:~] vmware -v
VMware ESXi 7.0.3 build-24585291
```

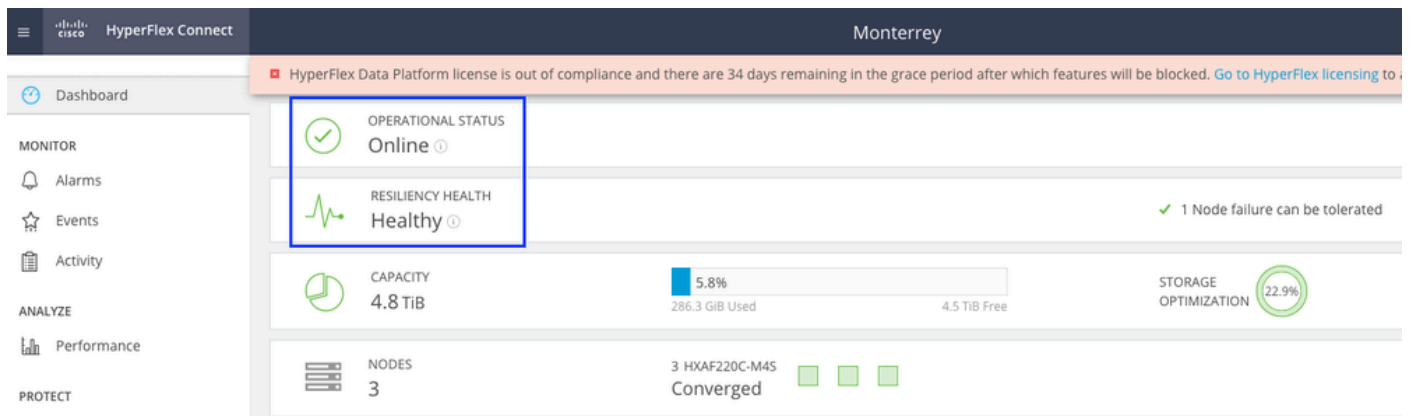
Step 7. Exit the node from maintenance mode and wait for the cluster to become healthy.

Open the HX-Connect, choose **System Information> Nodes**, choose the node in maintenance mode and click **Exit HX Maintenance Mode**

System Overview Nodes Disks								
Last refreshed at: 03/12/2025 12:43:10 AM								
⊞ Enter HX Maintenance Mode ⊞ Exit HX Maintenance Mode								
Node	Hypervisor Address	Hypervisor Status	Controller Address	Controller Status	Model	Version	Disks	Command Line Mode
Monterrey-server-1		Offline		Offline	HXAF220C-M4S	5.0(2d)	8	-
Monterrey-server-2		Online		Online	HXAF220C-M4S	5.0(2d)	8	Root shell
Monterrey-server-3		Online		Online	HXAF220C-M4S	5.0(2d)	8	Root shell

Allow a few minutes for the Hyperflex Cluster to complete healing. The HX Connect **Dashboard** shows you the **Operational Status**, it must be **Online**, and the **Resiliency Health** must show **Healthy**.

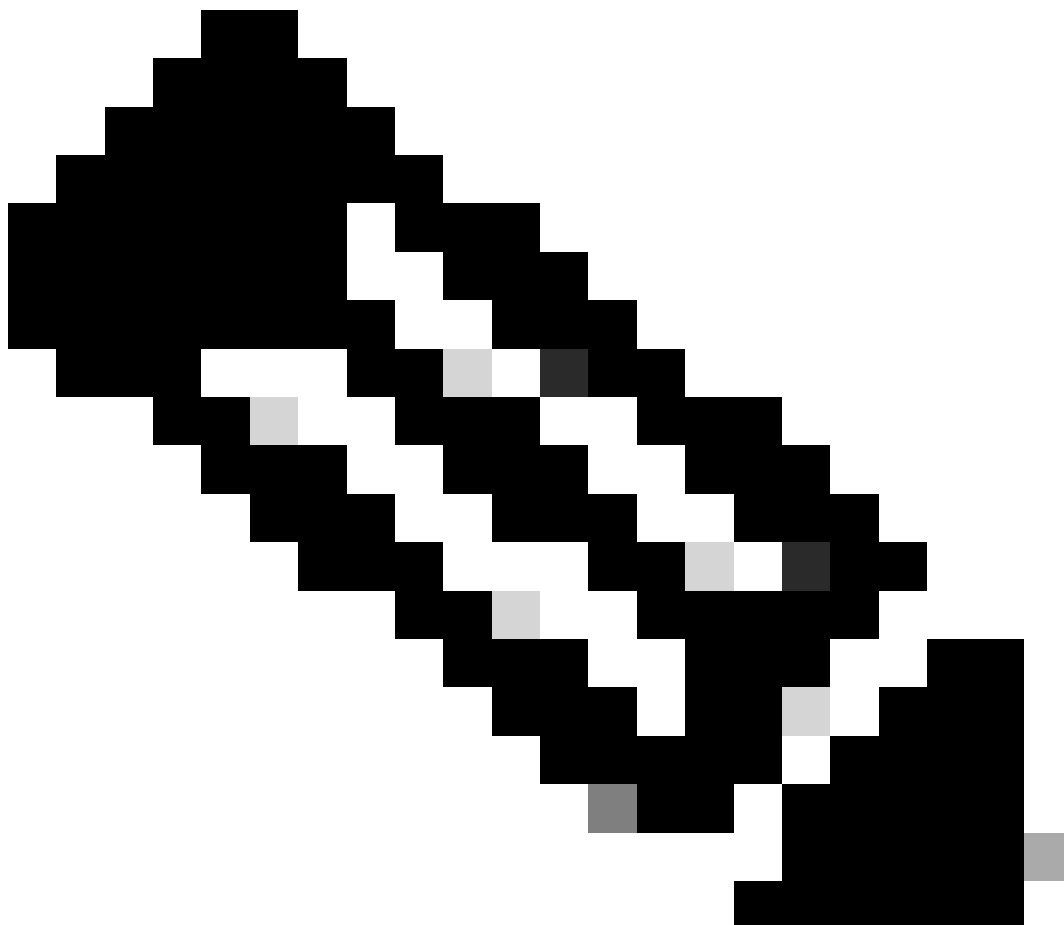
Also from VCenter, make sure the server can see all the datastores.



Repeat the steps on all nodes which are part of the cluster, one at a time.

Upgrade via HX Connect UI

Navigate to Upgrade tab, select ESXI upgrade type and upload the ESXI upgrade file.



Note: If your cluster is on HX version 5.5 or 6.0, you need to perform a combined upgrade by selectin **HX Data Platform** and uploading the HX bundle of your current version

MONITOR

- Alarms
- Events
- Activity

ANALYZE

- Performance

PROTECT

- Replication

MANAGE

- System Information
- Datastores
- ISCSI
- Virtual Machines
- Upgrade**
- Web CLI
- Kubernetes

Select Upgrade Type

Progress

☐ HX Data Platform ⓘ

☒ **ESXi** ⓘ **2**

52%

Current version: 7.0.3 [Current hypervisor details](#) [Bundle details](#)

☐ UCS Server Firmware ⓘ

☐ Secure Boot mode ⓘ

vCenter Credentials

Username: administrator@vsphere.local Password: [REDACTED]

Upgrade

Once the file is uploaded, enter the **vCenter Credentials** and click **Upgrade**.

Select Upgrade Type

Progress

☐ HX Data Platform ⓘ

☒ **ESXi** ⓘ

ESXi-7.0U3s-24585291-standard file is uploaded

Current version: 7.0.3 [Current hypervisor details](#) [Bundle details](#)

☐ UCS Server Firmware ⓘ

☐ Secure Boot mode ⓘ

vCenter Credentials

Username: administrator@vsphere.local Password: [REDACTED]

Upgrade

First stage is to validate the upgrade If Distributed Resource Scheduler (DRS) is Enabled, the VMs are automatically vMotioned to other hosts.

Select Upgrade Type

Progress

Validating upgrade

Monterrey

Warning

✓

Checking cluster state

✓

Checking if cluster rebalance is in progress

✓

Checking if all nodes are online and connected to vCenter

✓

Checking if all controller VMs have enough free space in root partition

✓

Checking if all controller VMs have disks mounted correctly

✓

Checking ESX Host Version on Cluster Nodes with NVMe Disks

✓

Validating if all nodes have same HyperFlex version.

✓

Querying Hypervisor bundle details during upgrade

✓

Checking if ESXi upgrade is required

⚠

Checking vCenter configuration

WARNING: The current cluster Monterrey has DRS disabled. Host evacuation will need to be performed manually through vCenter for each host during the upgrade. This process is non-disruptive as VMs are evacuated using manual vMotion tasks. Please configure DRS for a fully automated experience and retry.

✓

Checking ESXi nodes have enough space to upload upgrade bundle

Cancel

Retry

Skip Validations

Click **Skip Validations** and upgrade start automatically.

Monitor the ugrade process.

Note: If DRS is Disabled, vMotion the VMs manually to continue the upgrade process.

Select Upgrade Type

Progress

Upgrade in progress

Upgraded 0 of 3 total nodes

ESXi

7.0.3-23794019 to 7.0.3-24585291

^ Collapse All

Monterrey-server-1

Succeeded

✓

Copying Hypervisor Upgrade Package

Monterrey-server-2

In Progress

✓

Copying Hypervisor Upgrade Package

✓

Checking Cluster readiness

⌚

Entering Cluster Node into maintenance mode. DRS is not enabled or not fully automated. Workload VMs must be manually migrated to other Cluster Nodes

Monterrey-server-3

In Progress

✓

Copying Hypervisor Upgrade Package

✓

Checking Cluster readiness

⌚

Entering Cluster Node into maintenance mode. DRS is not enabled or not fully automated. Workload VMs must be manually migrated to other Cluster Nodes

Wait until upgrade completes on all the nodes of the cluster.

UPGRADE STATUS

Success

Upgraded on 03/12/2025 2:48:30 PM [View Activity for details](#)

UPGRADE VERSION

ESXI7.0.3-23794019 to 7.0.3-24585291

X

CLUSTER UPGRADE ELIGIBILITY

Verify

You can verify the ESXI installed version from HX Connect on **System Information** tab.

MONITOR

Alarms

Events

Activity

ANALYZE

Performance

PROTECT

Replication

MANAGE

System Information

Datastores

iSCSI

Virtual Machines

Upgrade

Web CLI

Kubernetes

Monterrey

ONLINE

License Type

Reserved

License Status

vCenter

Uptime

194 days, 23 hours, 21 minutes, 8 seconds

Hypervisor

7.0.3-24585291

HXDP Version

5.0.2d-42558

Total Capacity

Available Capacity

Data Replication Factor

Hyperconverged Nodes

Node	Hypervisor	HyperFlex Controller	Disk Overview (7 in use)
Monterrey-server-1 HXAF220C-M4S	<div>Online</div> <div>7.0.3-24585291</div>	<div>Online</div> <div>5.0.2d-42558</div>	<div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div>
Monterrey-server-2 HXAF220C-M4S	<div>Online</div> <div>7.0.3-24585291</div>	<div>Online</div> <div>5.0.2d-42558</div>	<div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div>
Monterrey-server-3 HXAF220C-M4S	<div>Online</div> <div>7.0.3-24585291</div>	<div>Online</div> <div>5.0.2d-42558</div>	<div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div>


From vCenter you can see the ESXI version on the **Summary** of the server.

10.0.120.100

ACTIONS

SummaryMonitorConfigurePermissionsVMsDatastores

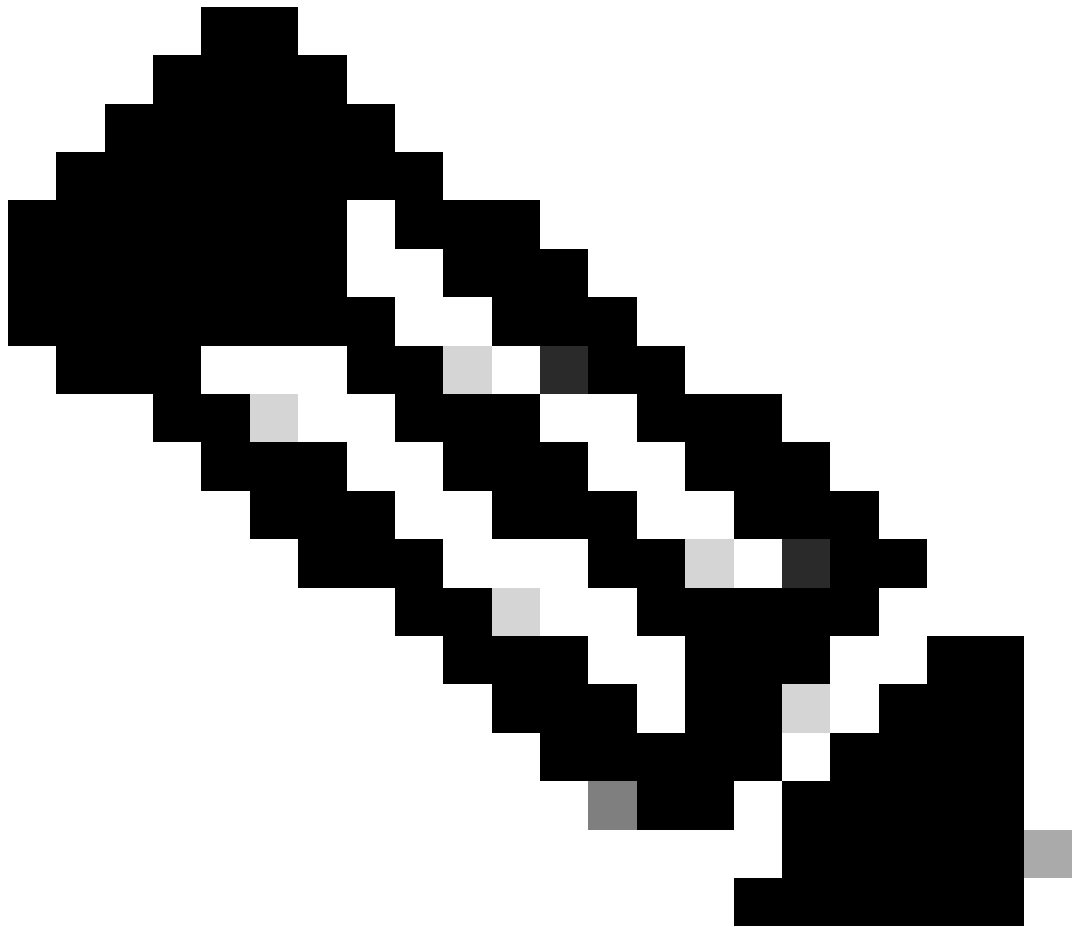
Host Details



Hypervisor:	VMware ESXi, 7.0.3, 24585291
Model:	HXAF220C-M4S
Processor Type:	Intel(R) Xeon(R) CPU E5-2650 v4 @ 2.20GHz
Logical Processors:	48
NICs:	8
Virtual Machines:	7
State:	Connected
Uptime:	22 hours

Since the ESXI image is non-custom you need to confirm Hyperflex VIBs are still showing intact on the servers.

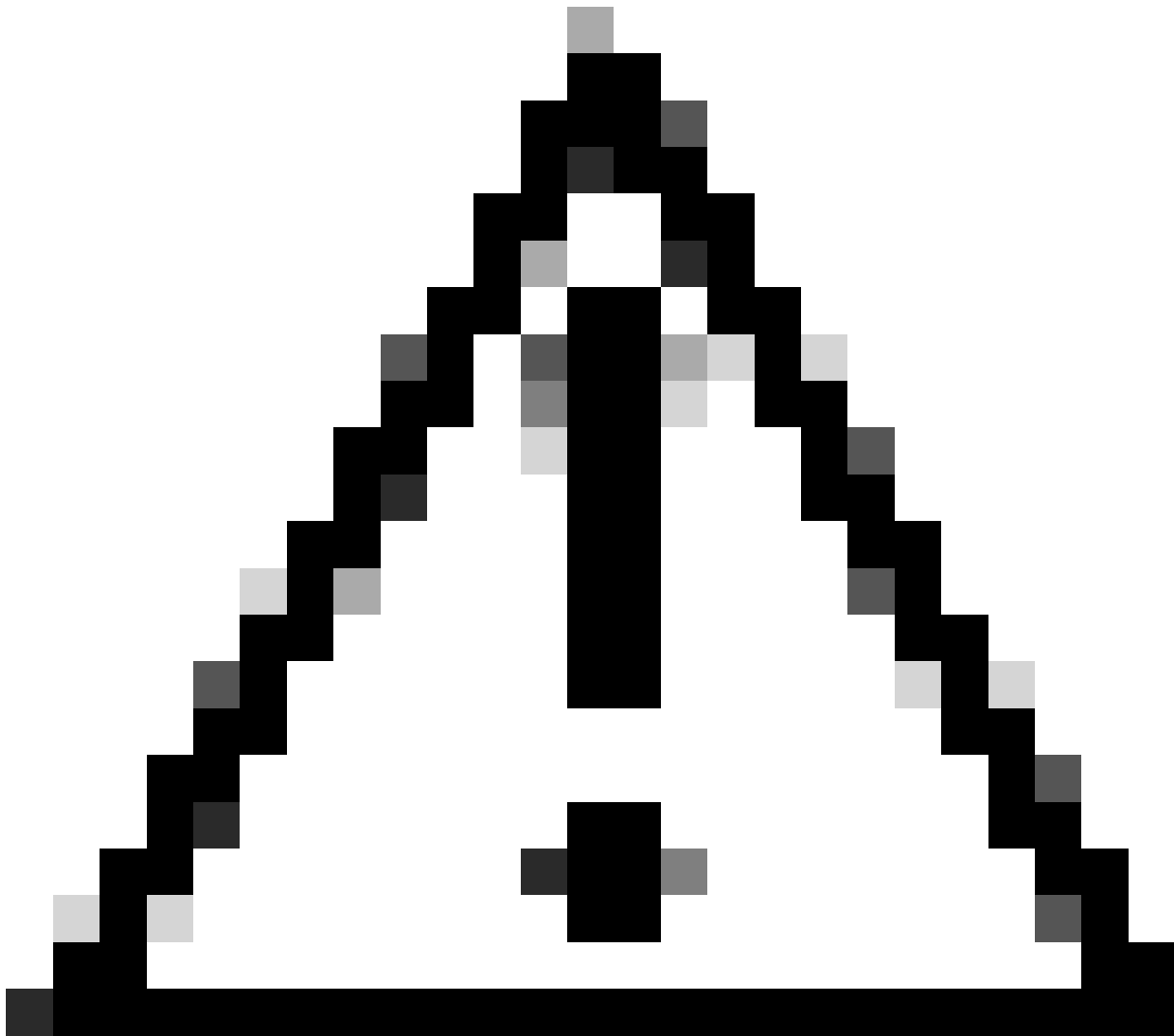
SSH into each ESXI host after the patch completed and before starting with the next node and verify the Hyperflex VIBs with command: **esxcli software vib list | egrep -i 'scvmclient|STFSNasPlugin|stHypervisorSvc'**



Note: In versions ESXi 7.0 U3, vmware-esx-STFSNasPlugin changed to CIS-ESX-STFSNasPlugin
In versions ESXi 8.0 U1, stHypervisorSvc changed to sthypervisorsvc.

```
[root@Monterrey-server-1:~] esxcli software vib list | egrep -i 'scvmclient|STFSNasPlugin|stHypervisorSvc'
```

CIS-ESX-STFSNasPlugin	4.5.1-11	CIS	VMwareAccepted	2023-10
scvmclient	5.5.1-38	CIS	VMwareAccepted	2023-11
stHypervisorSvc	4.5.1-11	CIS	VMwareAccepted	2023-10



Caution: In certain scenarios, the non-custom image can overwrite the `nenic` and `nfnic` VIBs with a different version than the ones of the custom image. You need to validate we have the correct versions after the patch.

SSH into each ESXI host after the patch completed and before starting with the next node and verify the Hyperflex VIBs with command: **esxcli software vib list | egrep -i 'nenic|nfnic'**

```
[root@Monterrey-server-3:~] esxcli software vib list | egrep -i 'nenic|nfnic'
```

nfnic	5.0.0.43-10EM.700.1.0.15843807	CIS	VMwareCertified	2025-02
nenic-ens	1.0.6.0-10EM.700.1.0.15843807	Cisco	VMwareCertified	2023-10
nenic	2.0.10.0-10EM.700.1.0.15843807	Cisco	VMwareCertified	2024-03

Troubleshoot

If `nenic` or `nfnic` got overwritten with a different version you can install the correct ones by downloading an ESXI custom zip image of your same version from software.cisco.com. Unzip the image and from the **vib**

directory look for **nenic** and **nfnic** directories. Extract the vib file and upload it via vCenter to a datastore mounted on the servers. Make sure cluster is online and healthy.

Step 1. From HX Connect navigate to **System Information > Nodes**, select one of the hosts and click **Enter HX Maintenance Mode**.

After the host enters maintenance mode, move on to the next steps.

SSH to the ESXI host in maintenance mode and navigate to the datastore folder where the ESXI vib file is copied. In this scenario, the file is available on Upgrade datastore

```
[root@Monterrey-server-3:~] cd /vmfs/volumes/Upgrade
```

```
[root@Monterrey-server-3:/vmfs/volumes/2f27e295-70f773c4] ls
CIS_bootbank_nenic_2.0.10.0-10EM.700.1.0.15843807.vib
```

Run this command in order to upgrade the vib: **esxcli software vib update -v "/complete/path/vib-file.vib" -f**

```
[root@Monterrey-server-3:/vmfs/volumes/2f27e295-70f773c4] esxcli software vib update -v "/vmfs/volumes/
Installation Result
  Message: The update completed successfully, but the system needs to be rebooted for the changes to b
  Reboot Required: true
  VIBs Installed: CIS_bootbank_nenic_2.0.10.0-10EM.700.1.0.15843807
  VIBs Removed: Cisco_bootbank_nenic_1.0.45.0-10EM.700.1.0.15843807
  VIBs Skipped:
```

Once the vib update completes, restart the ESXi host.

SSH into the host and verify the vib was updated successfully with the command: **esxcli software vib list | egrep -i 'nenic|nfnic'**

Exit the node from maintenance mode and wait for the cluster to become healthy.

Open the HX-Connect, choose **System Information> Nodes**, choose the node in maintenance mode and click **Exit HX Maintenance Mode**

If your server boots from SD card, you can run into a known issue while applying the patch. "Unable to Remediate Host due to Error while waiting for untar process" This issue is caused when untar operation of individual VIBs takes more than the default 30 seconds timeout during the remediation process. For environments using SD card as the OSData partition, there are chances that VMware tools untar process takes slightly higher duration. You can refer [this article](#) to resolve it.